M46/3

Veterans Administration

Sharing Specialized Medical Resources
Program Guide

March 11, 1986

Department of Medicine and Surgery
Emergency Management and Resource Sharing Service
Washington DC 20420

READEX FICHE

VA 1.10:

FOREWORD

This program guide wams developed to assist officials of health care facilities in carrying out their responsibilities in the area of sharing specialized medical resources. It brings together in one compilation, material which should be used in developing and processing sharing contracts which involve manpower, equipment, space, supplies and services. The material contained herein is for guidance only and if any doubt exists concerning its application, the basic authority contained in the U.S. Code, VA Manuals and VA Regulations should be consulted. Hopefully this guide will answer many of the questions which may come up but in those instances where it does not, contact with program staff in Central Office is encouraged.

Director for Operations

Distribution: RPC: 1016
FD

Printing Date: 5/86

CONTENTS

PARAGRAPH PAGE

1. Purpose 1
2. General 1
3. Authority to Share 1
4. Mutual Use and Exchange of Use Contracts 1
5. Establishing a Sharing Agreement 2
6. Field Renewal of Sharing Agreements 3
7. Costing 3
8. Funding 3
9. Sharing Program Terminology 3

APPENDIXES

A. Guideline on Building Depreciation for Sharing Agreements A-1
B. Guideline on Equipment Depreciation for Sharing Agreements B-1
C. Costing Computation of Interest Expense C-1
D. Case Problem Illustration of Costing D-1

SHARING SPECIALIZED MEDICAL RESOURCES

1. PURPOSE

The purpose of the program guide is to provide guidelines for the sharing of specialized medical resources.

2. GENERAL

The concept of sharing to avoid duplication of costly medical resources can result in efficiency and economy of operations. Where new construction is contemplated, potential sharing should play a major role throughout the planning process. The concept should also be given utmost consideration in preparing a VA medical center's short- and long-range plans.

a. Under the provisions of 38 U.S.C. 5051 through 5053, the VA may join with non-VA hospitals (Federal, State and local public or private), clinics, blood banks, and organ banks in a cooperative effort to share the use of specialized medical resources. This is accomplished through mutual use and exchange of use contracts.

b. Medical center Directors should be alert to developments in the medical care field and in their respective medical communities, and use initiative and resourcefulness in negotiating agreements when the sharing concept can be employed effectively within the limits of the agency's statutory authority in the management of the VA medical care program. To achieve this end a close working relationship with community planners is encouraged.

c. The Medical District Directors and Regional Directors share responsibility for providing the necessary leadership to bring about greater participation in sharing on a local and districtwide basis.

3. AUTHORITY TO SHARE

The basic authority for sharing specialized medical resources is Pub. L. 89-785, as amended. VA policy is provided in VA Manual M-1, part I, chapter 1, section I and 38 CFR 17.210. Under provisions of the law VA medical centers having specialized medical resources (as defined in par. 9 of this guide) which are not utilized to the maximum for veterans, can enter into contracts to make such excess capacity available to community hospitals and clinics and thereby eliminate the need for the community hospitals and clinics to establish a duplicate resource. Conversely, under this contracting authority, the VA can obtain a similar type of resource in the community for care and treatment of veterans. Agreements under which VA medical centers would "share" specialized VA medical resources can be accomplished only when there will be no reduction in service to eligible veterans and provision is made for reimbursement. The Chief Medical Director has instructed all DM&S health care facility Directors to include sharing as a part of their "Comprehensive Planning for DM&S Field Stations." However, VA may not consider providing facilities or services in excess of our own needs, solely to meet the combined community and VA need, unless it is clear that there would be an overall gain to the Government resulting from the reciprocal service or facility provided by the medical community.

4. MUTUAL USE AND EXCHANGE OF USE CONTRACTS

a. There are three contract formats that are used for sharing agreements:

(1) Mutual use of specialized medical resources provided to a VA medical center (VA purchases medical resources from a non-VA hospital or clinic).

(2) Mutual use of specialized medical resources provided by a VA medical center (VA sells medical resources to a non-VA hospital or clinic).

(3) Exchange of use of specialized medical resources (VA buys and sells medical resources in conjunction with a non-VA hospital or clinic). Under an exchange of use agreement the services sold do not have to equal the services bought in either cost or quantity and attempts to balance them should be avoided. Net payment procedures may be used if provided for in the terms of the individual contract.

b. The contract formats are found in section II, formats H, I, and J of the VA Procurement Handbook.

5. **ESTABLISHING A SHARING AGREEMENT**

a. A decision to develop a "sharing" agreement should only be made based on determinations that:

(1) The equipment, space, or personnel to be shared are, because of cost, limited availability, or unusual nature, either unique in the medical community or subject to maximum utilization only through mutual use,

(2) In the case of VA obtaining a resource, the agreement would obviate a need to provide a similar resource in a VA facility,

(3) In the case of VA providing a resource, the resource has been justified on the basis of veterans' needs but has not been used to maximum effective capacity, and

(4) The proposed contractor operates a hospital, clinic, medical school, or blood or organ bank.

b. Following a decision to enter into a proposed sharing agreement, negotiation with the proposed contractor should be initiated. The Supply Service contracting officer must participate in the negotiation process and is required by regulations to be the head of the contracting team.

c. After each contracting entity agrees to the services to be provided, and to the cost of those services, a proposed contract should be written by the Supply Service in accordance with the VAAR 815.200.

d. The proposed contract should be reviewed by the contracting parties and agreement (subject to Central Office approval) reached. The unsigned proposal in original and five copies should be forwarded to Director for Operations (10BEMS) for approval in accordance with VAAR 815.204(e). If more than two service areas are being shared, submit one copy for each additional service (i.e., Medicine, Pathology, Radiology, etc.).

e. A justification letter should be included with the proposed contract. The letter should explain the need for the services and contain a *statement of methodology used to determine the cost of those services.* The letter should also contain the following:

(1) Total estimated cost of the services to be bought.

(2) Projection of calculated cost for services to be sold.

(3) Full name and address of the contractor.

(4) A statement explaining how the agreement would obviate the need for a similar resource to be provided in a VA facility. (VA buy only.)

(5) A statement explaining how in relation to cost, limited availability or unusual nature, the medical resource is subject to maximum utilization only through sharing and that other alternative sources existing within a geographical area were considered.

(6) A statement declaring that the contractor operates either a hospital, clinic, medical school, blood or organ bank.

(7) A statement that the sharing agreement is or is not a renewal contract.

f. The contract should be signed by the contracting parties only after the VA facility receives written approval from the Director for Operations (10B).

6. FIELD RENEWAL OF SHARING AGREEMENTS

a. Proposed renewal of sharing contracts should be submitted to the appropriate Medical Director for approval when such contracts (1) include the same items and (2) the price increase is no more than 10 percent. (See VAAR 815.204(f).)

b. Contracts in excess of $500,000 which may be subject to audit by the Inspector General should be submitted to Central Office in the usual manner. (FAR 15.805.5(a)(1)) (VAAR 815.804-2).

c. Medical District Directors should forward a copy of all executed contracts renewed in the field to the Director for Operations (10BEMS) for post audit and for the purpose of making the Annual Report to Congress as required by 38 U.S.C. 5057, *within 15 days* following approval.

7. COSTING

a. When the VA procures a medical resource from a non-VA hospital or clinic, the VA should not pay more than those prices charged to the general public for the same service, or more than the medicare established rate in the case of end-stage renal disease.

b. When the VA provides a medical resource to a non-VA hospital or clinic the VA must set its charges to obtain reimbursement which covers at least the full cost of services rendered, supplies used, including normal depreciation and amortization of equipment according to life expectancy. (Reference: MP-4, pt. V, Ch. 6, sec. I). See appendixes.

8. FUNDING

Payment to the VA for use of resources provided non-VA hospitals and clinics should be deposited to the Central Office medical care appropriation. Reimbursements resulting from sharing agreements should be funded back to the VA medical center which provided the service.

9. SHARING PROGRAM TERMINOLOGY

While some of the terms defined in the following paragraph are not discussed in the guide, they were included since they impact on sharing or are alternate methods of accomplishing sharing.

a. **Sharing Contract.** A written agreement between a VA medical center and another hospital, medical school, clinic, blood bank or organ bank to buy, sell, or exchange specialized medical resources.

b. **Sharing.** Generalized term for the relationship created by mutual use and exchange of use contracts.

c. **Mutual Use Contract.** When one medical facility either purchases from or sells specialized medical resources to another medical facility.

d. **Exchange of Use Contract.** Where two medical facilities provide each other specialized medical resources under a single contract.

e. **Clinic.** An organized medical facility where a group of medical personnel provides health care to patients.

f. **Specialized Medical Resources.** Medical resources (whether equipment, space, or personnel) which, because of cost, limited availability, or unusual nature, are either unique in the medical community or are subject to maximum utilization only through sharing of that resource.

g. **Exchange of Medical Information.** The exchanging of medical information and techniques, in accordance with an agreement, which would be available for use by any party to the agreement, 38 U.S.C. 5054.

h. **Period of Contract.** A fixed time duration of an agreement which has beginning and ending dates which are certain and determinable in the future.

i. **Contract Appendix.** List of medical resources being shared and appended to the contract.

j. **Amendments.** Changes to contracts, such as, deletions or additions of medical services, procedures, prices, treatment, etc.

k. **VAAR.** VA Acquisition Regulations implementing and supplementing the Federal Procurement Regulations. (Issued by VA.)

l. **FAR.** Federal Acquisition Regulations derived from public law. (Issued by GSA.)

m. **Cross-Servicing Agreement.** Method of providing or exchanging equipment and services support to Government departments or agencies under interagency cross-servicing agreements authorized by the Economy Act (31 U.S.C. 1535). (See MP-2, subch. E, pt. 108-77).

n. **Revocable License**

(1) Authority to issue VA-owned personal property. Examples: Radio communications equipment, research equipment, renal dialysis equipment, typewriters, etc. (Reference: MP-2, subch. E, sec. 108-27.52.)

(2) Authority to establish a license for the use of VA-owned real property. Examples: Therapeutic swimming pool, athletic field, and auditorium. (Reference: MP-3, pt. II, ch. 4.)

o. **Lease.** A contract by which one medical facility makes available to another medical facility the use and possession of space and/or medical equipment for a predetermined period of time.

p. **Scarce Medical Specialist.** Includes any professional or technician who performs specialist services related to providing medical care in a VA medical center or clinic. (Reference: 38 U.S.C. 4117).

q. **Medical Community.** For the purposes of a sharing agreement the parameter of a medical community must be defined to justify obtaining services outside the immediate geographic area.

GUIDELINE ON BUILDING DEPRECIATION FOR SHARING AGREEMENTS

BUILDING DEPRECIATION

A. **Method.** Use "straight-line," represented by the formula below:

AD = Annual Depreciation
AC = Acquisition Cost
CI = Capitalized Improvements
EUL = Estimated Useful Life

AD = (AC+CI)—EUL

B. **Estimated Useful Life Guidelines**

(1) The useful life expectancy of buildings are listed in MP-4, part V, chapter 14.

(2) The useful life expectancy of capitalized improvements will be the same as those of related buildings, unless determined to be different by Engineering Service. If the useful life is less than the building life, then only the estimated useful life of the capitalized improvements will be used.

C. **Examples of Computing Depreciation of Building and Capitalized Improvements**

(1) Example "A": Method for computing charges for depreciation. The useful life expectancy of the building in this example is *40 years* (you would refer to MP-4, pt. V, ch. 14 and MP-4, pt. V, ch. 6 for actual life expectancy). To find quarterly depreciation amount, you must divide acquisition cost by (40x4 = 160) 160 quarters. See calculations below:

Building No. 1 Date of Acquisition 1938 Cost $8,000,000
Date of Capitalized Improvements 1962 Cost $5,000,000

Date of Acquisition	Cost	Calculations
1938	$8,000,000	(No depreciation — Building is older than 40 years)

Capitalized Improvements	Cost	Calculations
1962	$5,000,000	(Life expectancy of improvements — 40 years)

Quarterly Depreciation

Total Cost for Depreciation $5,000,000 ÷ 160 = $31,250

(2) Example "B": Method for computing charges for depreciation. The useful life expectancy of the building in this example is *25 years* (reference MP-4, pt. V, ch. 14 and MP-4, pt. V, ch. 6 for actual life expectancy). To find quarterly depreciation amount, you must divide acquisition cost by (25 x 4 = 100) 100 quarters, see calculations below:

Building No. 2 Date of Acquisition 1970 Cost $25,000,000
Date of Capitalized Improvement 1980 Cost $3,000,000

(NOTE: Capitalized improvements are estimated by Engineering Service to have a useful life of only 16 years, as a new building will replace the present one at that time.)

	Date of Acquisition	Cost	Calculations
Building No. 2	1970		$25,000,000 ÷ 100 = $250,000

	Capitalized Improvements	Cost	Calculations
	1980		$3,000,000 ÷ 64 = $46,875

Total depreciation for the quarter = $296,875

D. **Allocation of Building Depreciation**

(1) To determine the building depreciation to be allocated to a given service that renders tests/procedures or otherwise provide medical resources under a sharing agreement, use the following formula to compute *average* building depreciation.

BDSSA = Building Depreciation for Service with Sharing Agreement
DCA/SSA = Direct Care Area (in square feet) of Service with Sharing Agreement
MCTDCA = Medical Center's Total Direct Care Area (in square feet)
MCTBD = Medical Center's Total Building Depreciation

$$BDSSA = \frac{DCA/SSA}{MCTDCA} \times MCTBD$$

(2) Direct care areas are those that are used in providing medical care such as wards, x-ray rooms, operating rooms, laboratories, etc.

(3) Indirect care areas are those that are not direct care areas, such as common hallways, elevators, support services and administration offices.

(4) Average building depreciation is preferably used in situations where: (a) Several buildings are involved in providing the services under the sharing agreement, or (b) using "specific identification" of building(s) will result in unusually small or large depreciation where the building(s) involved in sharing agreement are fully depreciated or where the pertinent building(s) are very recently constructed.

E. **Depreciation of Buildings, RCS 10-0141, Sections I and III**

Section I

(1) Buildings Quarterly Depreciation Value. General Ledger Account 1826 (subsidiary to real property cards) should be used to compute the depreciation of buildings. The following example formula will be applied to each real property card:

40-year useful life = 160 quarters

(2) **General Ledger No. 1826 (Real Property Cards)** **$12,400,000**

Building No. 1	1940 (older than useful life)	$10,000,000	
	1955 improvement	300,000	÷ 160 = $ 1,875.00
		$10,300,000	
Building No. 6A	1950	$ 2,000,000	
	1960 improvement	100,000	
		$ 2,100,000	÷ 160 = $13,125.00

Total quarterly depreciation to be applied to square footage $15,000.00

(3) **Allocation by Bed Section:**

Square Footage —	38 Percent	50 Percent	12 Percent
	.38 x $15,000 = $5,700	.50 x $15,000 = $7,500	.12 x $15,000 = $1,800

(4) **Depreciation Allocation to 10-0141 Accounts**

	Medical	**Surgical**	**Psychiatric**
Account No.:	1100.80	1200.80	1300.80
	$5,700.00	$7,500.00	$1,800.00

F. **Method for Computing Charges for Depreciation of Buildings**

Section III

(1) Charges for depreciation of buildings will be computed by each facility annually (for sec. III) as of October 1, by dividing the Total Funded Jurisdictional cost less the cost of Non-VA Facilities and Miscellaneous Benefits and Services on the Report of Medical Care Distribution Accounts into the annual depreciation value developed for buildings.

(2) The cost figures will be obtained from the preceding end-of-fiscal year RCS 10-0141 (EX: September 30, 1983). The buildings figure (General Ledger Account 1826) will be obtained from the current fiscal year's Opening Trial Balance (EX: October 1, 1983). **Estimated useful life of buildings is quoted from the American Hospital Association Manual, 1983 Edition.** Years of life expectancy of buildings have been changed to correspond to the American Hospital Association. Years of life expectancy of buildings for various types of construction are:

Type	Years
Permanent (Masonry, Concrete)	40
Permanent (Frame, Wood)	25

(3) Total Funded Jurisdictional Cost (Excludes Asset Acquisition) shown on the Report of Medical Care Distribution Accounts (RCS 10-0141) $11,863,701.00

Less: Inpatient Care—Non-VA Facilities (Account 3000.00)	1,021,050.00
Outpatient Care—Non-VA Facilities (Account 4000.00)	547,387.00
Miscellaneous Benefits and Services (Account 6000.00)	270,693.00
TOTAL NET CHARGES	$10,024,571.00

(4) Buildings—Annual depreciation value
(General Ledger Account 1826 divided by life expectancy)
$15,064,578.00 divided by 40 ..... $ 376,614.45

(5) Percentage factor for depreciation of buildings
(Buildings—Annual depreciation value divided by Total Net Charges)
$376,614.45 divided by $10,024,571.00 ..... 3.8 percent

A life expectancy of 40 years was used for this example.

G. **VA Capitalization Policy on M&R (Maintenance and Repairs) Cost Accounting**

(1) **General Standards for Maintenance and Repairs**

(a) This section prescribes the "Capitalization" policy of the VA. It has been developed in full recognition of the Accounting Principles and Standards (Title 2) Comptroller General. In the event that the following guidelines do not describe a situation at your facility, the Chief, Accounting Section, shall record such transactions in a manner consistent with sound judgement and accounting practices and in accord with the general principles outlined.

1. Purchase and Hire of Government employees (i.e., VA), labor will not be capitalized for maintenance and repairs or Building Service Equipment projects.

(b) Consistent with the principles prescribed in title 2, the criteria for costing recurring and nonrecurring maintenance and repairs are as follows:

1. When all three criteria listed below are met you *must capitalize*.

a. The repair has an expected useful life of more than 2 years.

b. The dollar value is in excess of $5,000.

c. The repairs extend the useful life or service capacity of the item being repaired.

2. The cost of assets or components removed, superseded, or destroyed in the improvement process shall be expensed.

(2) **General Elements**

It should be recognized that not all maintenance and repairs should be capitalized. The following elements will be helpful in applying the criteria for costing.

(a) **Non-Capitalized.** Maintenance and repair work of an *incremental nature* that prevents physical deterioration or offsets current deterioration of real property. This work only maintains real property in good physical condition or restores it to such a condition that it may be utilized for its original or designed purpose. Work of this nature does not add to the useful value or extend the life of the real property and should *not be capitalized.*

(b) **Capitalized**

1. **Major Repairs.** Maintenance and repairs that include: interior or exterior utility systems; individual building components (windows, flooring, roofing, etc.); patient support and protection systems (medical air/oxygen, vacuum, sprinkler or fire alarm systems).

2. **Minor Repairs.** Minor improvement—work that encompasses: structural changes; additional space; new or expanded utilities; alterations or modernization; or space utilization changes to buildings, structures or grounds. Projects classified as minor improvement are those where the majority of the work within the project is of a minor improvement nature and the minor improvement cost does not exceed $100,000. Work of this type usually encompasses several physical areas such as walls, floors, ceilings, utility systems, building service equipment, etc. While each physical area by itself may constitute only M&R, combining several areas makes this a renovation, alteration, or modernization project and the cost will be capitalized. (Building service equipment should be costed separately, even when cost is part of minor repairs.)

(3) **Equipment and Components Capitalized, Regardless of Dollar Amount**

(a) **Building Service Equipment.** All building service equipment must be capitalized. Building service equipment are those pieces of operating equipment which are permanently installed in or attached to building and structures that render the building or structure safe, habitable or useable. Building service equipment normally includes items required for the functional use of building and structures, such as heating, lighting fixtures, elevators, vaults, fire alarm and air-conditioning systems, etc., which, when installed, become an integral part of real property.

(b) **Components and Installation Cost (BSE)**

1. Components that are constituent elements of building service equipment will be capitalized.

2. Installation cost relates to building service equipment which will be capitalized along with the components being installed.

3. The components removed, superseded or destroyed in the repair or installation of building service equipment shall be expensed.

(c) **Non-Capitalized Cost.** Building Service Equipment maintenance, done under a service contract, will not be capitalized regardless of supplies and components parts that may be furnished.

GUIDELINE ON EQUIPMENT DEPRECIATION FOR SHARING AGREEMENTS

SHARING AGREEMENT

A. **Method.** Use "straight-line," represented by the formula below:

AD = Annual Depreciation
AC = Acquisition Cost
SV = Salvage Value or Scrap Value, if any
EUL = Estimated Useful Life (in years)

AD = (AC - SV) - EUL

B. **Which Estimated Useful Life to Use?** Following the principle of conservatism and in order to optimize cost recovery, use the estimated useful life of a given piece of equipment as shown in *either* the latest edition of "Estimated Useful Lives of Depreciable Hospital Assets" published by the AHA (American Hospital Association), *or* the latest edition of the VA Office of Procurement and Supply "Supply Catalog —Nonexpendable Items," whichever one shows the shorter life. A sample comparison of equipment useful life between the AHA and the VA is shown in exhibit I. Where equipment is not mentioned in both aforementioned AHA and VA publications, then use the lowest life among the following:

(1) AHA

(2) VA

(3) Manufacturer's estimate

(4) Ten years

C. **Specific Identification or Allocation?** Use "specific identification" or "allocation" in computing equipment depreciation for a given test or procedure, whichever is appropriate. Appropriateness is influenced by the following factors: Cost of equipment and practicality. For example, for providing services using a CAT scanner, which is a costly piece of equipment, "specific identification" is the appropriate approach. On the other hand, very repetitive laboratory tests and tests that use several small pieces of equipment, "allocation" of the depreciation of those pieces of equipment to the several procedures is the more appropriate to use.

D. **Projected Workload and Adjustment of Depreciation.** In general, cost of services under sharing agreements will be influenced by the accuracy of total projected number of tests or procedures under sharing agreements. The other remaining factor that will influence the unit cost of a test/procedure is the projected total workload. Experience has shown that the projected total workload is subject to wide fluctuations, particularly during the first year of the sharing agreement. Accordingly, it is recommended that quarterly review of the projected total workload be done. Adjustments to equipment depreciation (and other elements of cost affected by projected workload) should be adjusted if the unit cost is going to change more than five percent.

E. **Exception: Extremely Low Volume of Tests.** In general, a piece of equipment is designed to perform a certain number of tests/procedures during its useful life. In a few isolated cases, *where volume is unusually low* for any given period, *then equipment depreciation for a procedure/test shall be computed based on the following formula:*

DPT = Depreciation Per Test
AC = Acquisition Cost
TTL = Total Test Life (Per Equipment Manufacturer, the number of tests/procedures during life)
SV = Salvage Value

$$DPT = \frac{AC - SV}{TTL}$$

Rationale: If the volume is so low that a piece of equipment will last 8 years instead of 5 years, according to the schedule, depreciation per test based on the equipment life is an appropriate alternative.

SAMPLE COMPARISON OF EQUIPMENT USEFUL LIFE BETWEEN AHA AND VA

	AHA (1983)	VA SUPPLY CATALOG (Jun '84)
Scanner—Body CT (VA Index No. 098240, page 208)	5	10
Scanner—Isotope (VA Index No. 098250, 70, 80, page 280)	8	10
Analyzer—Gas and Oxygen (VA Index No. 012600 thru 016300, pages 108 and 109)	10	10
Cryosurgical Unit (VA Index No. 182300 thru 183100, page 130)	10	10
Microscope	10	
Microscope—Electron		15
Microscope—Optical (VA Index No. 241800 thru 253650, pages 317-318)		19

COSTING COMPUTATION OF INTEREST EXPENSE

Annually around the start of the fiscal year, VA Central Office shall compute the interest expense rate to be used in costing test/procedures under the medical care resource sharing agreement. This rate shall be sent to facilities by TWX. This replaces "interest on next capital investment." If you are interested in how this method was derived, the following information is provided:

A. **Formulas**

IE = TFC (Total Funded Cost) x FIE (Federal Interest Expense Rate)
IE = Interest Expense to be imputed to the procedure/test that is being costed
TFC = Total Funded Cost of the procedure/test before interest expense
TFI = Total Federal Interest
TFB = Total Federal Budget
FIE = Federal Interest Expense (Rate)
(Total Federal Interest) = Federal Interest Expense Rate (Total Federal Budget)

B. **Example**

(1) **Requirements:** Compute the interest expense imputable to fiscal year 86 XYZ Test/Procedure.

(2) **Given:**
(a) Fiscal Year 86 Total Federal Budget = $974.5 billion.
(b) Fiscal Year 86 Federal Interest Expense = $133.5 billion.
(c) Fiscal Year 86 Funded Unit Cost and XYZ Test/Procedure = $470.01.

C. Solution

(1) **Requirement No. 1: Interest Rate**

Federal Interest Expense
FIE = TFI—TFB
FIE = $133.5—$974.5
FIE = 13.7 percent

(2) **Requirement No. 2: Interest Expense**

Interest Expense Imputable to XYZ Test/Procedure
IE = $470.01 x 13.7 percent
IE = $54.39

CASE PROBLEM ILLUSTRATION OF COSTING

A. REQUIREMENT

Alltown VA medical center entered into a sharing agreement with New City Community Hospital to provide special neuro/vascular radiology procedures for a period of 1 year beginning the coming fiscal year. Alltown is to provide 12 types of procedures one of which is called ATATR (Abdominal/Thoracic Aortagram Two Run). John Smith, a VA medical center employee, was asked by his supervisor to determine Alltown's projected cost for one ATATR. John was told to prepare an exhibit showing all the cost elements each of which is to be supported by computation schedules or footnotes.

B. GIVEN

From the Chief, Radiology Service; Chief, Fiscal Service; and Chief, Engineering Service, the following data were obtained:

(1) **Workload.** Total procedures done last fiscal year were 1,300. For the sharing agreement 200 more procedures are expected to be done. Total estimated workload for next fiscal year = 1,500 procedures or 2,800 technicians' manhours on a weighted work unit equivalent.

(2) **Personnel.** There shall be no increase in current personnel despite the expected additional workload from the sharing agreement. (See figure 6.18 for detail.)

(3) **Supplies.** The film and other supplies used in one ATATR procedure cost is $164.76 and is not expected to change (fig. 6.19).

(4) **Equipment Depreciation.** Three pieces of equipment are used to do a neuro/vascular radiology procedure. They were acquired in 1980 with depreciable cost of $1,207,762 and are estimated to last 10 years (fig. 6.20).

(5) **Equipment Maintenance.** Repair and maintenance cost for the three pieces of equipment used in neuro/vascular radiology procedures is estimated to be $62,500 for the coming fiscal year (fig. 6.20).

(6) **Engineering and Building Management.** Out of 458,924 medical center square footage, radiology occupies 1,547 square feet. For the coming fiscal year engineering and building management cost is estimated to be $5,243,032 (fig. 6.21).

(7) **Medical Center Administration.** It is estimated that for the next fiscal year administration cost (all 400 cost centers) is $4,043,829 and that total direct FTEE (all 200 cost centers) is 622.1 (fig. 6.21).

(8) **VA Central Office Administration.** For its share of central office overhead (personnel, building depreciation, and interest expense), Alltown is to add 9.4 percent of its own cost to arrive at total cost (fig. 6.21).

(9) **Average Time to Perform an ATATR Procedure.** It requires two technicians an average of 90 minutes each to perform an ATATR procedure. Estimated clerical time to process all necessary paperwork is 15 minutes per procedure. In addition, the five technicians are required at certain times to be available on a standby basis, the details of which are shown on the last paragraph of figure 6.18.

C. SOLUTION

For the next fiscal year, the charge to bill an ATATR procedure under the sharing agreement is $514.19. The elements of cost with their respective unit costs are shown on figure 6.17. Supporting computation schedules are shown on figures 6.18 through 6.21.

UNIT COST SUMMARY FOR ABDOMINAL/THORACIC AORTAGRAM TWO RUN PROCEDURES ALLTOWN VA MEDICAL CENTER FY 198__

Element of Cost	Supporting Schedule Reference	Unit Cost
I. Direct Costs		
A. Staffing		
1. Professional Administration and Quality Control	Figure 6.18	$ 3.46
2. Clerical Support	Figure 6.18	1.92
3. Technical Support	Figure 6.18	115.20
4. Standby Pay for Technical Support	Figure 6.18	24.70
		145.28
B. Supplies	Figure 6.19	164.76
C. Equipment		
1. Depreciation	Figure 6.20	80.52
2. Maintenance and Repairs	Figure 6.20	41.67
		122.19
II. Indirect Costs		
A. Administration	Figure 6.21	26.00
B. Engineering and Building Management	Figure 6.21	11.78
		37.78
Total Medical Center Direct and Indirect Costs		470.01
C. VA Central Office Administrative Cost	Figure 6.21	44.18
Total Unit Cost For ATATR Procedure		$ 514.19

Figure 6.17. Total Unit Cost of a Test/Procedure: Cost Elements and Their Unit Costs

IA. **STAFFING**

There are no changes to current staffing requirements. There is a total of 5 percent time spent by both .9 Physician (GS-15/6) and Chief Technician (GS-11/5) for professional administration and quality control, five full time technicians (one GS-7/7, three GS-7/5 and one GS-7/1) perform the procedures and one secretary (GS-5/6), one receptionist (GS-4/10), one film processing (GS-3/10), two clerk/typists (GS-4/5) and two file clerks (GS-3/5) to prepare necessary paperwork. This procedure requires a total of six FTEE's.

A1. **Professional Administration and Quality Control**

Type of Employee	Grade	(1) FTEE	(2) Personal Svc. (P/S) Cost	(3) 12 Percent Fringe Benefits or Physician Bonus (2)X12 Percent	(4) P/S and Fringe Benefits or Physician Bonus (2+3)X(1)
Physician	GS-15/6	.9	$58,627	$18,599	$ 69,503
Chief Technician	GS-11/5	1.0	28,750	3,450	32,200
					$101,703

Total Direct P/S Cost = $101,703 X 5 percent Time Spent = $5,085

Cost per procedure = $5,085 ÷ 1,500 procedures = $ 3.39 to figure 6.17

A2. **Clerical Support**

Secretary	GS-5/6	1.0	16,142	1,937	$ 18,079
Receptionist	GS-4/10	1.0	16,075	1,929	18,004
Film Processor	GS-3/10	1.0	14,032	1,718	16,038
Clerk/Typists	GS-4/5	2.0	14,015	1,681	31,394
File Clerks	GS-3/5	2.0	12,852	1,542	28,788
		7.0			$112,303

Total available minutes = 7.0 FTEE X 2,087 hours X 60 minutes = 876,540.
Cost per minute = $112,303 ÷ 876,540 = $0.12812.
Cost per procedure = $.12812 X 15 minutes = $1.92 to figure 6.17

Figure 6.18. Schedule to Compute Direct Labor Unit Cost for an ATATR Procedure

A3. **Technical Support**

Type of Employee	Grade	(1) FTEE	(2) Personal Svc. (P/S) Cost	(3) 12 Percent Fringe Benefits or Physician Bonus (2)X12 Percent	(4) P/S and Fringe Benefits or Physician Bonus (2+3)X(1)
Technician	GS-7/7	1.0	$ 20,564	$ 2,468	$23,032
Technicians	GS-7/5	3.0	19,422	2,331	65,259
Technician	GS-7/1	1.0	17,138	2,057	19,195
					$107,486

Cost per minute = $107,486 ÷ 2800 actual manhours spent ÷ 60 minutes = $.64

Cost per procedure = $.64 X 90 minutes X 2 technicians = $115.20 to figure 6.17

A4. **Standby Pay for Technical Support**

Technician	GS-7/7	1.0	$ 20,564	$ 20,564
Technicians	GS-7/5	3.0	$ 19,422	58,266
Technician	GS-7/1	1.0	$ 17,138	17,138
				$ 95,968

Percentage of Standby Pay = $95,968 X 25 percent = $23,992.
Fair Labor Standby Act (FLSA) Pay = $3.35 FLSA hourly rate X 15 standby hours/week X 52 weeks per year X 5 technicians = $13,065. Total Direct Standby P/S Cost = $23,992 Percentage of Standby Pay + $13,065 FLSA Pay = $37,057. Cost per procedure = $37,057 ÷ 1,500 procedure = $24.70 to figure 6.17.

Figure 6.18. Schedule to Compute Direct Labor Unit Cost of an ATATR Procedure — Continued

IB. **SUPPLIES**

The technicians identified the actual supplies used in one ATATR procedure.

ITEM	COST
Film	$ 80.00
Basic Tray	41.54
Contrast Media	17.17
Guide Wires	13.00
Catheter	8.05
Connecting Tube	5.00
Total	$164.76 to figure 6.17

Figure 6.19. Supplies Cost To Do an ATATR Procedure

IC. EQUIPMENT

Three pieces of equipment are used in Neuro/Vascular Procedures. The equipment and maintenance cost as summarized below were based on actual historical data.

	Equipment Cost			Maintenance Cost			
Equipment	Original Cost	Update Cost	Total	Cost of Tube Replacement Per Year	+ Service	=	Total
Phillips							
Peripheral Vasc.	$287,072	$211,247	$ 498,319	$30,000	$ 2,000		$32,000
Phillips Neuro	447,667	—	447,667	20,000	2,000		22,000
Phillips DVI	261,776	—	261,776	—	8,500		8,500
Total	$996,515	$211,247	$1,207,762	$50,000	$12,500		$62,500

1. Equipment Depreciation using straight line method = $1,207,762 ÷ 10 years = $120,776.
   Cost per procedure = $120,776 ÷ 1,500 procedure = $80.52 to figure 6.17.

2. Maintenance Cost per procedure = $62,500 ÷ 1,500 procedures = $41.67 to figure 6.17.

Figure 6.20. Equipment Depreciation and Maintenance and Repairs for an ATATR Procedure

IIA. ADMINISTRATION

As of 9/30, it was estimated that for the coming fiscal year the medical center would have an average total of 622.1 Direct Care FTEE's (All 200 cost centers) and the Administrative Costs (All 400 cost centers) would be $4,043,829. It was also estimated six FTEE's were needed to perform Neuro/Vascular Radiology, five technicians and one equivalent FTEE for all the Professional Administrative, Quality Control, and Clerical personnel.

Direct Care FTEE's Worked—ATATR		Total Direct Care FTEE		Total Admin Bldg Mgt Cost		Allocated Engr Bldg Mgt Cost
6.0	÷	622.1	X	$4,043,829	=	$38,982

Cost per procedure = $38,982 ÷ 1,500 procedures = $26.00 to Figure 6.17

IIB. ENGINEERING AND BUILDING MANAGEMENT

Of the 458,924 square feet in the medical center, ATATR (Radiology Service Area) occupies 1,547 square feet. As of 9/30, the estimated next fiscal year total costs for Engineering and Building Management would be $5,243,032.

Sq. Ft. Used by ATATR		Total Med Ctr Sq. Ft.		Total Engr Bldg. Mgt. Cost		Allocated Engr. Bldg. Mgt. Cost
1,547	÷	458,924	X	$5,243,032	=	$17,674

Cost per procedure = $17,674 ÷ 1,500 procedures = $11.78 to Figure 6.17

IIC. VA CENTRAL OFFICE ADMINISTRATION

Based on figures provided by VA Central Office and computations outlined in MP-4, part V, chapter 14, VA Central Office Administrative costs are as follows:

Percentage Factor	
Depreciation of Building	1.0 percent
VA Central Office Administrative Expenses	1.1 percent
**Interest Expense*	7.3 percent
Total	9.4 percent

(Total Medical Center Direct and Indirect Costs Before VA Central Office Admin.) Factor X Percentage = VA Central Office Adm. Cost

$470.01 (fig. 6.17) X 9.4 percent = $44.18 to figure 6.17.

**This was formerly interest on net capital investment.*

Figure 6.21. Indirect Unit Costs for an ATATR Procedure

☆ U.S. Government Printing Office: 1986—491-873/55034